

TABLE 3 - SUMMARY OF CALCULATED SLOPE DEFORMATIONS AND FAILURE PROBABILITIES FOR CROSS SECTION I WITH BENCH ALTERNATIVE, PEAT AT -20FT (NONLIQUEFIED CAS)

Cross Section	Water Level Scenario	Ground Motion Level	Time History	Sliding Surface ³	K _y (g)	K _{max} (g)	K _y /K _{max}	Slope Deformation (feet)				Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)			
								Newmark	Makdisi and Seed								
									Best Estimate	Min Estimate	Max Estimate						
Cross Section I (Peat at -20 ft)	Low tide high reservoir	43 years	Landers	A	0.125	0.041	3.04	0.03	0.03	0.03	0.03	0.01	0.01	0.01			
				B	0.138	0.097	1.43	0.03	0.03	0.03	0.03	0.01					
			Whittier Narrows	C	0.094	0.072	1.31	0.03	0.03	0.03	0.03	0.01	0.01				
				D	0.095	0.100	0.95	0.03	0.03	0.03	0.03	0.01					
		475 years	Landers	A	0.125	0.089	1.41	0.03	0.03	0.03	0.03	0.01	0.17	0.23			
				B	0.138	0.213	0.65	0.12	0.15	0.03	0.26	0.01					
			Whittier Narrows	C	0.094	0.175	0.54	0.23	0.33	0.07	0.59	0.03	0.30				
				D	0.095	0.200	0.48	0.50	0.56	0.13	0.98	0.17					
		2500 years	Landers	A								95.00	95.00	95.00			
				B								95.00					
			Whittier Narrows	C								95.00	95.00				
				D								95.00					
Cross Section I (Peat at -20 ft)	High tide low reservoir	43 years	Landers	A	0.092	0.030	3.03	0.03	0.03	0.03	0.03	0.01	0.01	0.01			
				B	0.135	0.116	1.17	0.03	0.03	0.03	0.03	0.01					
			Whittier Narrows	C	0.115	0.082	1.41	0.03	0.03	0.03	0.03	0.01	0.01				
				D	0.108	0.113	0.96	0.03	0.03	0.03	0.03	0.01					
		475 years	Landers	A	0.092	0.035	2.64	0.03	0.03	0.03	0.03	0.01	0.01	0.09			
				B	0.135	0.129	1.05	0.03	0.03	0.03	0.03	0.01					
			Whittier Narrows	C	0.115	0.077	1.49	0.03	0.03	0.03	0.03	0.01	0.09				
				D	0.108	0.113	0.95	0.03	0.03	0.03	0.03	0.01					
		2500 years	Landers	A	0.092	0.081	1.13	0.03	0.03	0.03	0.03	0.01	0.08	0.09			
				B	0.135	0.229	0.59	0.32	0.25	0.07	0.43	0.06					
			Whittier Narrows	C	0.115	0.150	0.77	0.07	0.07	0.03	0.10	0.01	0.09				
				D	0.108	0.214	0.50	0.38	0.43	0.10	0.75	0.08					
			Landers	A								95.00	95.00	95.00			
				B								95.00					
			Whittier Narrows	C								95.00	95.00				
				D								95.00					

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

3 - Sliding surfaces A and B are on the reservoir side and C and D are on the slough side

TABLE 4 - SUMMARY OF CALCULATED SLOPE DEFORMATIONS AND FAILURE PROBABILITIES FOR CROSS SECTION II WITH BENCH ALTERNATIVE, PEAT AT -40FT (NONLIQUEFIED CASE)

Cross Section	Water Level Scenario	Ground Motion Level	Time History	Sliding Surface ³	K _y (g)	K _{max} (g)	K _y /K _{max}	Slope Deformation (feet)			Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)		
								Newmark	Makdisi and Seed						
									Best Estimate	Min Estimate	Max Estimate				
Cross Section II (Peat at -40 ft)		43 years	Landers	A	0.082	0.021	3.90	0.03	0.03	0.03	0.03	0.01	0.01		
				B	0.094	0.077	1.22	0.03	0.03	0.03	0.03	0.01			
				C	0.082	0.124	0.66	0.07	0.13	0.03	0.23	0.01	0.01		
				D	0.062	0.093	0.67	0.07	0.13	0.03	0.23	0.01			
		475 years	Whittier Narrows	A	0.082	0.020	4.10	0.03	0.03	0.03	0.03	0.01	0.01		
				B	0.094	0.071	1.32	0.03	0.03	0.03	0.03	0.01			
				C	0.082	0.124	0.66	0.07	0.10	0.03	0.16	0.01	0.01		
				D	0.062	0.094	0.66	0.07	0.10	0.03	0.16	0.01			
		2500 years	Landers	A	0.082	0.054	1.52	0.03	0.03	0.03	0.03	0.01	2.62		
				B	0.094	0.173	0.54	0.22	0.41	0.10	0.72	0.03			
				C	0.082	0.273	0.30	1.49	1.46	0.43	2.49	2.62	2.95		
				D	0.062	0.200	0.31	1.21	1.46	0.43	2.49	1.55			
		High tide low reservoir	Whittier Narrows	A	0.082	0.035	2.34	0.03	0.03	0.03	0.03	0.01	3.29		
				B	0.094	0.140	0.67	0.23	0.10	0.03	0.16	0.03			
				C	0.082	0.233	0.35	1.63	0.51	0.16	0.85	3.29	95.00		
				D	0.062	0.178	0.35	1.56	0.51	0.16	0.85	2.94			
		43 years	Landers	A	No Convergence			-	-	-	-	95.00	95.00		
				B	No Convergence			-	-	-	-	95.00			
				C	No Convergence			-	-	-	-	95.00	95.00		
				D	No Convergence			-	-	-	-	95.00			
		475 years	Whittier Narrows	A	0.058	0.020	2.90	0.03	0.03	0.03	0.03	0.01	0.01		
				B	0.070	0.089	0.79	0.03	0.03	0.03	0.03	0.01			
				C	0.110	0.100	1.10	0.03	0.03	0.03	0.03	0.01	0.01		
				D	0.078	0.083	0.94	0.03	0.03	0.03	0.03	0.01			
		2500 years	Landers	A	No Convergence			-	-	-	-	95.00	95.00		
				B	No Convergence			-	-	-	-	95.00			
				C	No Convergence			-	-	-	-	95.00	95.00		
				D	No Convergence			-	-	-	-	95.00			
		Whittier Narrows	Landers	A	No Convergence			-	-	-	-	95.00	95.00		
				B	No Convergence			-	-	-	-	95.00			
				C	No Convergence			-	-	-	-	95.00	95.00		
				D	No Convergence			-	-	-	-	95.00			

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

3 - Sliding surfaces A and B are on the reservoir side and C and D are on the slough side

TABLE 5 - SUMMARY OF CALCULATED SLOPE DEFORMATIONS AND FAILURE PROBABILITIES FOR CROSS SECTION I WITH BENCH ALTERNATIVE, PEAT AT -20FT (LIQUEFIED CASE)

Cross Section	Water Level Scenario	Ground Motion Level	Time History	Sliding Surface ³	K _y (g)	K _{max} (g)	K _y /K _{max}	Slope Deformation (feet)				Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)			
								Makdisi and Seed									
								Newmark	Best Estimate	Min Estimate	Max Estimate						
Cross Section I (Peat at -20 ft)	Low tide high reservoir	43 years	Landers	A	0.083	0.089	0.93	0.03	0.03	0.03	0.03	0.01	0.19	0.23			
				B	0.070	0.095	0.74	0.03	0.05	0.03	0.07	0.01					
				C	0.042	0.099	0.42	0.20	0.67	0.16	1.18	0.02					
				D	0.027	0.099	0.27	0.54	1.79	0.56	3.02	0.19					
		475 years	Whittier Narrows	A	0.083	0.112	0.74	0.03	0.08	0.03	0.13	0.01	0.27	16.99			
				B	0.070	0.118	0.59	0.11	0.11	0.03	0.20	0.01					
				C	0.042	0.111	0.38	0.33	0.38	0.10	0.66	0.06					
				D	0.027	0.106	0.25	0.62	0.82	0.23	1.41	0.27					
		2500 years	Landers	A	0.083	0.218	0.38	0.80	0.82	0.23	1.41	0.53	16.99	14.68			
				B	0.070	0.230	0.30	1.35	1.15	0.36	1.94	2.05					
				C	0.042	0.213	0.20	2.38	3.15	1.02	5.28	8.21					
				D	0.027	0.208	0.13	3.30	5.28	1.80	8.76	16.99					
		High tide low reservoir	Whittier Narrows	A	0.083	0.192	0.43	0.62	0.36	0.10	0.62	0.28	12.36	95.00			
				B	0.070	0.205	0.34	1.03	0.44	0.13	0.75	1.01					
				C	0.042	0.201	0.21	1.95	0.94	0.26	1.61	5.11					
				D	0.027	0.192	0.14	2.85	1.56	0.46	2.66	12.36					
		43 years	Landers	A								95.00	95.00	1.11			
				B								95.00					
				C								95.00					
				D								95.00					
		475 years	Whittier Narrows	A								95.00	95.00	1.32			
				B								95.00					
				C								95.00					
				D								95.00					
		2500 years	Landers	A								95.00	95.00	95.00			
				B								95.00					
				C								95.00					
				D								95.00					
		High tide low reservoir	Whittier Narrows	A								95.00	95.00	95.00			
				B								95.00					
				C								95.00					
				D								95.00					

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

3 - Sliding surfaces A and B are on the reservoir side and C and D are on the slough side

TABLE 6 - SUMMARY OF CALCULATED SLOPE DEFORMATIONS AND FAILURE PROBABILITIES FOR CROSS SECTION II WITH BENCH ALTERNATIVE, PEAT AT -40FT (LIQUEFIED CASE)

Cross Section	Water Level Scenario	Ground Motion Level	Time History	Sliding Surface ³	K _y (g)	K _{max} (g)	K _y /K _{max}	Slope Deformation (feet)			Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)			
								Newmark	Makdisi and Seed							
									Best Estimate	Min Estimate	Max Estimate					
Cross Section II (Peat at -40 ft)		Low tide high reservoir	43 years	Landers	A	0.060	0.109	0.55	0.09	0.34	0.08	0.59	0.01	1.57	2.14	
					B	0.058	0.108	0.54	0.10	0.38	0.10	0.66	0.01			
			475 years	Whittier Narrows	C	0.027	0.084	0.32	0.33	1.51	0.40	2.62	0.06	2.71	68.53	
					D	0.009	0.077	0.12	1.22	6.07	2.30	9.84	1.57			
		2500 years	Landers	A	0.060	0.217	0.28	1.56	1.71	0.46	2.95	2.94	81.66	95.00	95.00	
				B	0.058	0.214	0.27	1.41	1.72	0.47	2.97	2.28				
			Whittier Narrows	A	C	0.027	0.183	0.15	3.51	4.35	1.48	7.22	19.34	55.39	95.00	95.00
				D	0.009	0.156	0.06	9.03	10.17	3.94	16.40	81.66				
		High tide low reservoir	Landers	A	B	C	D	No Convergence		-	-	-	-	95.00	95.00	95.00
				A	B	C	D	No Convergence		-	-	-	95.00			
			43 years	Landers	A	0.040	0.116	0.34	0.32	1.16	0.35	1.97	0.06	0.91	1.50	1.50
					B	0.020	0.116	0.17	0.99	3.94	1.31	6.56	0.91			
		2500 years	Whittier Narrows	A	C	0.052	0.082	0.63	0.06	0.15	0.03	0.26	0.01	2.08	95.00	95.00
				D	0.030	0.075	0.40	0.19	0.88	0.11	1.64	0.02				
			Landers	A	B	C	D	No Convergence		-	-	-	-	95.00	95.00	95.00
				A	B	C	D	No Convergence		-	-	-	95.00			
		2500 years	Whittier Narrows	A	B	C	D	No Convergence		-	-	-	-	95.00	95.00	95.00
				A	B	C	D	No Convergence		-	-	-	95.00			

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

3 - Sliding surfaces A and B are on the reservoir side and C and D are on the slough side

TABLE 7 - SUMMARY OF CALCULATED SLOPE DEFORMATION AND FAILURE PROBABILITIES FOR CROSS SECTION I WITH ROCK BERM, PEAT AT -20FT (NONLIQUEFIED CASE)

Cross Section	Water Level Scenario	Ground Motion Level	Time History	Sliding Surface	K _y (g)	K _{max} (g)	K _y /K _{max}	Slope Deformation (feet)				Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)			
								Newmark	Makdisi and Seed								
									Best Estimate	Min Estimate	Max Estimate						
Cross Section I (Peat at -20 ft)	Low tide high reservoir	43 years	Landers	Reservoir Slough	0.140 0.250	0.097 0.100	1.44 2.50	0.03 0.03	0.03 0.03	0.03 0.03	0.03 0.03	0.01 0.01	0.01	0.01			
			Whittier Narrows	Reservoir Slough	0.140 0.250	0.112 0.124	1.25 2.02	0.03 0.03	0.03 0.03	0.03 0.03	0.03 0.03	0.01 0.01	0.01				
			Landers	Reservoir Slough	0.140 0.250	0.213 0.200	0.66 1.25	0.11 0.03	0.13 0.03	0.03 0.03	0.23 0.03	0.01 0.01	0.01	0.01			
			Whittier Narrows	Reservoir Slough	0.140 0.250	0.204 0.221	0.69 1.13	0.09 0.03	0.08 0.03	0.03 0.03	0.13 0.03	0.01 0.01	0.01				
		475 years	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
			Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
		2500 years	Landers	Reservoir Slough	0.140 0.270	0.116 0.113	1.21 2.39	0.03 0.03	0.03 0.03	0.03 0.03	0.03 0.03	0.01 0.01	0.01	0.01			
			Whittier Narrows	Reservoir Slough	0.140 0.270	0.129 0.113	1.09 2.39	0.03 0.03	0.03 0.03	0.03 0.03	0.03 0.03	0.01 0.01	0.01				
			Landers	Reservoir Slough	0.140 0.270	0.229 0.214	0.61 1.26	0.27 0.03	0.17 0.03	0.03 0.03	0.30 0.03	0.04 0.01	0.04	0.06			
			Whittier Narrows	Reservoir Slough	0.140 0.270	0.269 0.208	0.52 1.30	0.36 0.03	0.31 0.03	0.07 0.03	0.55 0.03	0.07 0.01	0.07				
			Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
			Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

TABLE 8 - SUMMARY OF CALCULATED SLOPE DEFORMATIONS AND FAILURE PROBABILITIES FOR CROSS SECTION II WITH ROCK BERM, PEAT AT -40FT (NONLIQUEFIED CASE)

Cross Section	Water Level Scenario	Ground Motion Level	Time History	Sliding Surface	K _y (g)	K _{max} (g)	K _y /K _{max}	Slope Deformation (feet)				Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)			
								Newmark	Makdisi and Seed								
									Best Estimate	Min Estimate	Max Estimate						
Cross Section II (Peat at -40 ft)	Low tide high reservoir	43 years	Landers	Reservoir Slough	0.090 0.110	0.077 0.093	1.17 1.18	0.03	0.03	0.03	0.03	0.01	0.01	0.01			
			Whittier Narrows	Reservoir Slough	0.090 0.110	0.071 0.094	1.27 1.17	0.03	0.03	0.03	0.03	0.01	0.01				
			Landers	Reservoir Slough	0.090 0.110	0.173 0.200	0.52 0.55	0.25	0.27	0.05	0.49	0.04	0.06	0.08			
			Whittier Narrows	Reservoir Slough	0.090 0.110	0.140 0.178	0.64 0.62	0.28 0.39	0.18	0.05	0.30	0.04	0.09				
		2500 years	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
			Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
	High tide low reservoir	43 years	Landers	Reservoir Slough	0.090 0.120	0.090 0.088	1.00 1.36	0.03	0.05	0.03	0.06	0.01 0.01	0.01	0.01			
			Whittier Narrows	Reservoir Slough	0.090 0.120	0.089 0.083	1.01 1.45	0.03	0.05	0.03	0.07	0.01 0.01	0.01				
			Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
		475 years	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
			Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00			
			Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

TABLE 9 - SUMMARY OF CALCULATED SLOPE DEFORMATIONS AND FAILURE PROBABILITIES FOR CROSS SECTION I WITH ROCK BERM, PEAT AT -20FT (LIQUEFIED CASE)

Cross Section	Water Level Scenario	Prob. Of Groundwater Scenario	Ground Motion Level	Prob. Of Ground Motion	Time History	Sliding Surface	K _y (g)	K _{max} (g)	K _y /K _{max}	Slope Deformation (feet)				Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)			
										Newmark	Makdisi and Seed								
											Best Estimate	Min Estimate	Max Estimate						
Cross Section I (Peat at -20 ft)	Low tide high reservoir	0.5	43 years	0.7	Landers	Reservoir Slough	0.070 0.080	0.095 0.099	0.74 0.81	0.03 0.03	0.05 0.03	0.01 0.03	0.10 0.03	0.01 0.01	0.01	0.01	0.01		
					Whittier Narrows	Reservoir Slough	0.070 0.080	0.118 0.106	0.59 0.75	0.11 0.03	0.22 0.13	0.07 0.03	0.43 0.11	0.01 0.01	0.01				
			475 years	0.25	Landers	Reservoir Slough	0.070 0.080	0.230 0.208	0.30 0.38	1.35 0.64	0.79 0.38	0.43 0.10	2.49 0.66	2.05 0.30	2.05	1.53	1.01		
					Whittier Narrows	Reservoir Slough	0.070 0.080	0.205 0.192	0.34 0.42	1.03 0.52	1.16 0.36	0.35 0.10	1.97 0.62	1.01 0.18	1.01				
			2500 years	0.05	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00	95.00		
					Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
				0.7	Landers	Reservoir Slough	0.030 0.120	0.112 0.101	0.27 1.19	0.84 0.03	1.79 0.03	0.56 0.03	3.02 0.03	0.60 0.01	0.60	0.80	1.00		
					Whittier Narrows	Reservoir Slough	0.030 0.120	0.128 0.092	0.23 1.30	1.02 0.03	0.74 0.03	0.16 0.03	1.31 0.03	1.00 0.01	1.00				
			High tide low reservoir	0.5	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00	95.00		
					Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
				0.25	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00	95.00		
					Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				
				0.05	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	95.00	95.00		
					Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00				

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

TABLE 10 - SUMMARY OF CALCULATED SLOPE DEFORMATIONS AND FAILURE PROBABILITIES FOR CROSS SECTION II WITH ROCK BERM, PEAT AT -40FT (LIQUEFIED CASE)

Cross Section	Water Level Scenario	Ground Motion Level	Time History	Sliding Surface	K_y (g)	K_{max} (g)	K_y/K_{max}	Slope Deformation (feet)			Probability of Failure ¹ (%)	Probability of Failure for Section ² (%)	Average Probability of Failure for Section (%)		
								Newmark	Makdisi and Seed						
									Best Estimate	Min Estimate	Max Estimate				
Cross Section II (Peat at -40 ft)		Low tide high reservoir	43 years	Landers	Reservoir Slough	0.063 0.042	0.108 0.077	0.58 0.55	0.09 0.11	0.27 0.34	0.08 0.08	0.46 0.60	0.01 0.01	0.01	
				Whittier Narrows	Reservoir Slough	0.063 0.042	0.103 0.080	0.61 0.53	0.14 0.15	0.10 0.13	0.03 0.03	0.16 0.22	0.01 0.02		
			475 years	Landers	Reservoir Slough	0.063 0.042	0.214 0.156	0.29 0.27	1.41 1.67	1.57 1.72	0.43 0.47	2.71 2.97	2.27 3.51	4.61	
				Whittier Narrows	Reservoir Slough	0.063 0.042	0.194 0.148	0.32 0.28	2.04 1.97	0.53 0.62	0.09 0.13	0.96 1.11	5.71 5.71		
		2500 years	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00		
				Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00		
		High tide low reservoir	43 years	Landers	Reservoir Slough	0.037 0.068	0.116 0.075	0.32 0.91	0.33 0.03	1.48 0.03	0.38 0.03	2.58 0.03	0.06 0.01	0.12	
				Whittier Narrows	Reservoir Slough	0.037 0.068	0.114 0.073	0.32 0.93	0.53 0.03	0.53 0.03	0.09 0.03	0.96 0.03	0.19 0.01		
			475 years	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	
				Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00		
			2500 years	Landers	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00	95.00	
				Whittier Narrows	Reservoir Slough	No Convergence			-	-	-	-	95.00 95.00		

Note: 1 - For no convergence cases, probabilities of failure were estimated based on slope deformations of 8 feet

2 - Failure probability of section was taken as the maximum of the 4 sliding surfaces

Table 10A - Summary of Maximum Calculated Deformations
475-year Earthquake Event
(deformations in feet, to nearest 0.1 foot)

Bottom of Peat at Elevation –20 Feet					
Option	Water Level Scenario	Non-liquefied Case		Liquefied Case	
		Slough-side	Res.-side	Slough-side	Res.-side
Bench	Low tide, high res.	0.7	0.1	3.3	1.4
	High tide, low res.	0.4	0.4	N.C.	N.C.
Rock Berm	Low tide, high res.	<0.1	0.1	0.6	1.4
	High tide, low res.	<0.1	0.4	N.C.	N.C.
Bottom of Peat at Elevation –40 Feet					
Bench	Low tide, high res.	1.6	0.2	9.0	2.2
	High tide, low res.	N.C.	N.C.	N.C.	N.C.
Rock Berm	Low tide, high res.	0.4	0.3	2.0	2.0
	High tide, low res.	N.C.	N.C.	N.C.	N.C.

Notes: Deformations based on Newmark analysis (Tables 3 to 10)

N.C. = non-convergence; deformations are large (>17 feet)

Table 11 - Probability of Failure of Cross Section I (Peat at -20 ft) With Bench Alternative

Cross Section	Water Level Scenario	Probability of Scenario (%)	Ground Motion Level	Probability of Ground Motion (%)	Liquefaction	Probability of Liquefaction (%)	Average Probability of Failure for Section (%)	Probability of Failure in 50 years (%)
Cross Section I (Peat at -20 ft)	Low tide high reservoir	33	43 years	70	Liquefaction	20	0.23	0.011
					Non-Liquefaction	80	0.01	0.002
			475 years	25	Liquefaction	70	14.68	0.848
					Non-Liquefaction	30	0.23	0.006
			2500 years	5	Liquefaction	95	95.00	1.489
					Non-Liquefaction	5	95.00	0.078
	High tide low reservoir	67	43 years	70	Liquefaction	20	1.11	0.104
					Non-Liquefaction	80	0.01	0.004
			475 years	25	Liquefaction	70	95.00	11.139
					Non-Liquefaction	30	0.09	0.005
			2500 years	5	Liquefaction	95	95.00	3.023
					Non-Liquefaction	5	95.00	0.159

Sum of Failure Probabilities (%) 16.867

Table 12 - Probability of Failure of Cross Section II (Peat at -40 ft) With Bench Alternative

Cross Section	Water Level Scenario	Probability of Scenario (%)	Ground Motion Level	Probability of Ground Motion (%)	Liquefaction	Probability of Liquefaction (%)	Average Probability of Failure for Section (%)	Probability of Failure in 50 years (%)
Cross Section II (Peat at -40 ft)	Low tide high reservoir	33	43 years	70	Liquefaction	20	2.14	0.099
					Non-Liquefaction	80	0.01	0.002
			475 years	25	Liquefaction	70	68.53	3.958
					Non-Liquefaction	30	2.95	0.073
			2500 years	5	Liquefaction	95	95.00	1.489
					Non-Liquefaction	5	95.00	0.078
	High tide low reservoir	67	43 years	70	Liquefaction	20	1.50	0.141
					Non-Liquefaction	80	0.01	0.004
			475 years	25	Liquefaction	70	95.00	11.139
					Non-Liquefaction	30	95.00	4.774
			2500 years	5	Liquefaction	95	95.00	3.023
					Non-Liquefaction	5	95.00	0.159

Sum of Failure Probabilities (%) 24.938

Table 13 - Probability of Failure of Cross Section I (Peat at -20 ft) With Rock Berm Alternative

Cross Section	Water Level Scenario	Probability of Scenario (%)	Ground Motion Level	Probability of Ground Motion (%)	Liquefaction	Probability of Liquefaction (%)	Average Probability of Failure for Section (%)	Probability of Failure in 50 years (%)
Cross Section I (Peat at -20 ft)	Low tide high reservoir	33	43 years	70	Liquefaction	20	0.01	0.000
					Non-Liquefaction	80	0.01	0.002
			475 years	25	Liquefaction	70	1.53	0.088
					Non-Liquefaction	30	0.01	0.000
			2500 years	5	Liquefaction	95	95.00	1.489
					Non-Liquefaction	5	95.00	0.078
	High tide low reservoir	67	43 years	70	Liquefaction	20	0.80	0.075
					Non-Liquefaction	80	0.01	0.004
			475 years	25	Liquefaction	70	95.00	11.139
					Non-Liquefaction	30	0.06	0.003
			2500 years	5	Liquefaction	95	95.00	3.023
					Non-Liquefaction	5	95.00	0.159

Sum of Failure Probabilities (%) 16.061

Table 14 - Probability of Failure of Cross Section II (Peat at -40 ft) With Rock Berm Alternative

Cross Section	Water Level Scenario	Probability of Scenario (%)	Ground Motion Level	Probability of Ground Motion (%)	Liquefaction	Probability of Liquefaction (%)	Average Probability of Failure for Section (%)	Probability of Failure in 50 years (%)
Cross Section II (Peat at -40 ft)	Low tide high reservoir	33	43 years	70	Liquefaction	20	0.01	0.000
					Non-Liquefaction	80	0.01	0.002
			475 years	25	Liquefaction	70	4.61	0.266
					Non-Liquefaction	30	0.08	0.002
			2500 years	5	Liquefaction	95	95.00	1.489
					Non-Liquefaction	5	95.00	0.078
	High tide low reservoir	67	43 years	70	Liquefaction	20	0.12	0.011
					Non-Liquefaction	80	0.01	0.004
			475 years	25	Liquefaction	70	95.00	11.139
					Non-Liquefaction	30	95.00	4.774
			2500 years	5	Liquefaction	95	95.00	3.023
					Non-Liquefaction	5	95.00	0.159

Sum of Failure Probabilities (%) 20.948